



NORTH VALLEY TREE SERVICE

Certified Arborists and Tree Workers

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Insects and Disease Prey on Stressed Trees

Sufficient water, light, and a proper balance of nutrients greatly influence plant health. Too much or too little of any of these environmental conditions may cause plant stress, which can weaken trees and make them more susceptible to insect and disease attack.

Therefore trees require proper plant health care. "We all love being surrounded by nature; however, to create that natural feeling in urban settings, we need to give trees a little help because they are growing in unnatural conditions," says Jim Skiera, Executive Director of the International Society of Arboriculture (ISA).

Diseases and Disorders

Diseases are caused by infectious or living agents such as fungi, viruses, and bacteria. Disorders are caused by noninfectious or nonliving agents such as nutrient deficiencies, temperature extremes, vandalism, and pollutants. For a disease to develop there must be the presence of a disease-causing agent (pathogen) to which the plant is vulnerable. If the proper environmental conditions are present over a certain amount of time then the pathogen will infect the plant. For example, many fungal diseases require moist conditions for spores to germinate.

Insects

In many cases, insect problems are secondary to problems brought on by a stress disorder or pathogen. Focusing on getting rid of the pest might not solve the primary problem.

Some insects suck sap from the tree or bore into the trunk and branches. These insects can stunt tree growth and weaken its structure. Insects may be divided into three categories according to their method of feeding.

- **Chewing insects** (beetles, caterpillars), eat leaves, flowers, and twigs. Indications of damage by these insects include leaf notching or skeletonizing.
- **Sucking insects** (aphids, mealybugs), feed on sap within the plant. Drooping, wilting, and discoloration are some indications of their presence.
- **Boring insects** (bark beetles), feed beneath the bark of the tree as larvae and continue to reproduce within the bark. Adults may lay eggs in tunnels beneath the bark. Boring insects tend to be the most destructive and can kill trees.

The most important thing to remember is that many insects in your garden or landscape are beneficial rather than destructive. They help with pollination or act as predators of more harmful insects. Therefore, killing all insects without regard to their species and function can actually be detrimental to plant health.

Diagnosis and Treatment

Correct diagnosis requires a careful examination of the situation. You must accurately identify the plant, look for patterns of abnormality, examine the roots, trunk and branches, and note the position and appearance of any abnormalities. Treatment depends on many specific factors. For more information on insects and disease visit www.treesaregood.com/treecare/insect_disease.aspx or contact a local ISA Certified Arborist. A Certified Arborist will be able to provide a professional plant health care evaluation.

The International Society of Arboriculture (ISA), headquartered in Champaign, Ill., is a nonprofit organization supporting tree care research and education around the world. As part of ISA's dedication to the care and preservation of shade and ornamental trees, it offers the only internationally-recognized certification program in the industry. For more information and to find a local ISA Certified Arborist, visit www.treesaregood.org.

Information courtesy of The International Society of Arboriculture (ISA) at www.treesaregood.com.